Dr. David Tilotta, President
The Coalition for Advanced Housing and Forest Products Research –
Developing Partnerships to Improve America's Housing

Statement Before the Subcommittee on Forests and Forest Health
House Resource Committee
U.S. House of Representatives

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Mr. Chairman,

Thank you for providing me with the opportunity to discuss the Coalition for Advanced Housing and Forest Products Research, or CAHFPR, with your committee today. I am Dr. David Tilotta, President of CAHFPR and an Associate Professor of Wood and Paper Science at North Carolina State University in Raleigh, NC.

As many of you know, housing construction is one of the largest uses of forest products in the United States. According to the National Association of Home Builders (the NAHB), the average American home is about 2,100 ft2 and contains just over 13,000 board feet of framing lumber, more than 6,200 ft2 of sheathing, and around 2,300 ft2 of exterior siding. And of course, the majority of the estimated 1.6 million new homes that will be built in America over the next year will use wood-frame construction and a variety of wood-based products. Thus, the increased demand for wood and related materials in new construction is expected to continue, as well as a corresponding increased demand for wood products in the repair, remodeling, and renovation construction industries.

I am here today to discuss our Coalition for Advanced Housing and Forest Products Research. CAHFPR is a university research and development extension of the USDA Forest Service, Forest Products Laboratory located in Madison, Wisconsin (FPL). CAHFPR had its genesis in ca.1998, but before I continue, you may be wondering: Why combine forest products research and housing? Our answer is: because it makes sense! Housing is one of the largest markets for forest products. And, unquestionably, America needs more affordable, durable, energy efficient and disaster resistant housing that will only come from the latest technological advances. Additionally, housing is one of the largest, if not the largest, investments that an individual makes in his or her lifetime. It is only logical that the substance of that investment be crafted and maintained with the same good science and engineering principles that allowed our nation to successfully land a spacecraft on Mars.

Simply, CAHFPR is a new way of doing business in the arena of housing research that maximizes the results and impact while minimizing the cost to the American taxpayer. Let me elaborate. The current situation in housing research in the United States is a rather dismal one: the national research and scientific capacity across all the traditional sectors (i.e., industry, university and government) have been declining, and international competition has been increasing. As an example, the Forest Service in general has lost, and not replaced, almost 50% of its scientists over the last 15 years. And more specifically, the Forest Products Laboratory in Madison, Wisconsin, the only Federal wood research facility, has seen their employee ranks diminish from 700 in 1944 to around 240 today. And of course, their total budget has remained approximately flat in recent years, which explicitly means that the amount of funding available for research has declined.

The trends in research funding, obviously important to university research, are not likely to dramatically change any time soon. So, we must ask the question: "How can we do more with less?"

The Coalition for Advanced Housing and Forest Products Research was formed in partnership with the Advanced Housing Research Center, or the AHRC, at the FPL to respond directly to the current diminishing research support from Washington, DC. Although the AHRC was established, in part, as a response to the Partnership for Advancing Technology in Housing (or PATH) program, FPL founded it so that they could

coordinate and streamline their wide-ranging housing research and development activities.

CAHFPR actively identifies, coordinates and executes research and development (R&D) for housing, and one of its major themes is to conduct R&D that responds to the construction, financing, and marketing of housing. Universities are invited to participate in CAHFPR based on their expertise in a given programmatic area, e.g., termite resistant materials, durability and natural disaster resistance, etc. Research areas and programs that the AHRC and CAHFPR undertake are guided by an independently conducted national needs assessment. This year, that assessment is being done by the NAHB Research Center located in Maryland. They are surveying key stakeholders (e.g., academicians, builders, homeowners, insurers, and others) to identify and rank the most important research needs across the country. In general, CAHFPR research progress is assessed for quality and program relevance to ensure progress and efficiency via an external working group comprised of representatives from academia, industry and the government.

As I mentioned earlier, CAHFPR is a university extension of the FPL, and the linkage to them is to their AHRC. We provide expertise that is complimentary to the scientists and engineers that are members of their center. This direct linkage provides for a degree of systematic synergy and augmentation of effort that otherwise wouldn't be possible.

Organizationally, the virtual "home" of the coalition is at the FPL. In addition to providing the universities with access to their scientists, they also provide them with technical report reviews, web page space, publication assistance, and dissemination services. The dissemination of the research results to industry is important, and the vital feedback from them is handled by the FPL through their Residential Moisture Management Network technology transfer group. The Network is a government/industry association. As an aside, the FPL has also formed a separate group, the Federal Agency Housing Partnership, that coordinates housing research and technology transfer within and among various Federal agencies.

The AHRC and CAHFPR believe that

• long term partnerships based on programmatic needs is the most efficient and direct means of impacting the most significant problems, and
• research should be crosscutting and integrated in order to optimize efficiency and maximize the benefit to the American public.

Current and future research areas of CAHFPR and the AHRC include:
• Moisture management and indoor air quality
• Improved use of traditional wood products
• Recycled and engineered wood composites
• Energy, sound, and environmental efficiency
• Natural disaster resistance
• Improved durability of finishes and sealants
• Better utilization of small diameter timbers and "junk" species

A long-term research union of the FPL, industry, the member universities of CAHFPR, and other affiliated government agencies has numerous advantages:
• The university researchers are allowed to network with some of the world's best scientists and engineers at the FPL, thereby increasing productivity
• The government has the benefit of working with, and training, the current generation of students, who will of course be the next generation of problem solvers and/or consumers
• The government does not have to duplicate research capacity that is present at the universities
• Together, the government and the universities can work on complex problems that necessarily may span years or decades to unravel
• Fast response to problems because the universities are "on call"

Partnerships are sometimes difficult to initiate and sustain, and CAHFPR has been no different. Since it's formation, some of the difficulties that we've had include:
• University administrators who adopt the "Why can't we have it all?" approach
• Partners who merely give lip service to partnerships
• University researchers who want funding without accountability
• Difficulty with existing laws that hamper the concept of "long term" relationships with the Federal Government

But perseverance is prevailing. CAHFPR is currently stable with six universities as members. In FY05, we will add additional ones to our roster having expertise in fire-related housing issues and the utilization of

small diameter timbers.

Finally, let me end this Statement be referencing a report that was published in 2002 by the National Research Council (the NRC, Cubbage, et. al, National Academy Press, Washington, DC, 2002) about four years after the beginnings of CAHFPR. The USDA Forest Service requested that the NRC examine the national capacity for forestry research. And out of 11 "Recommendations," the following four are particularly relevant with respect to CAHFPR, and point out that we're on the right track:

• "The Forest Service should substantially strengthen its research workforce over the next five years to address current and impending shortfalls…"
• "As part of the increase in research personnel capacity and resources, the Forest Service should enhance cooperative relations with forestry schools and colleges."
• "The USDA, together with universities, should develop means to more effectively communicate existing and new knowledge to users, managers, and planners…"
• "Centers of excellence in forestry should be established and administered by USDA. These programs and awarded projects should (1) support interdisciplinary and interorganizational activities, (2) focus on increasing minority student participation in education and research, (3) clearly justify how new forestry-research approaches and capacity will be enhanced, and (4) undergo initial and periodic review."
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As I said before, CAHFPR is about partnerships – partnerships with and among universities, the Federal Government (the USDA Forest Service Forest Products Laboratory), and industry. We believe that in order to advance the science and engineering aspects of the house and the "American Home," we must work together.

Thank you, Mr. Chairman and committee members, for your time. I would be pleased to answer any questions you have about CAHFPR.